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The slave-trading accounts of Manoel Batista Peres, 1613–1619: Double-entry bookkeeping in cloth money

Linda A Newson
Department of Geography, King's College London, UK

Abstract
This study examines the accounts of the Portuguese New Christian trader, Manoel Batista Peres. These private accounts, found in the Archivo General de la Nación in Lima, Peru, were associated with the trading of slaves on the Upper Guinea Coast in the early seventeenth century. The accounts take the double-entry format but, in the absence of a metallic currency, were kept in cloth money. Combining evidence from the accounts themselves, with the context in which Peres conducted his business, the study explores the reasons why he kept his accounts in this format. It shows how this system of accounting could be adapted to a non-monetised economy and contributes to the debate over the relationship between double-entry bookkeeping and the rise of capitalism.

Keywords
Cloth money, double-entry bookkeeping, Portuguese slave trade, private accounting, seventeenth century, unit of account, Upper Guinea

Introduction

This article analyses the private accounts kept by the Portuguese slave trader Manoel Batista Peres on the African coast at the beginning of the seventeenth century. Peres became one of the most prominent slave traders in Lima, Peru, in the 1620s and 1630s, when he was responsible for the importation of about 300 to 400 African slaves a year (Bowser, 1974; Minchin, 1998; Newson and Minchin, 2007). However, before settling in Lima, between 1613 and 1619 he personally undertook two slave-trading ventures to Upper Guinea, the region that today embraces Senegal, The Gambia and Guinea-Bissau. On these two ventures, he spent between 10 and 11 months on the African coast where he traded not only for slaves, but also in a wide range of other commodities.

After these two African slave-trading ventures, in the early 1620s Peres settled in Lima and conducted his business through agents in Upper Guinea, Cartagena and Panama. Like many Portuguese merchants at the time, he came from a New Christian family, whose members had

Corresponding author:
Linda A Newson, Department of Geography, King's College London, Strand, London WC2R 2LS, UK.
Email: linda.newson@kcl.ac.uk

converted from Judaism to Catholicism when the Jews were expelled from Spain in 1492 and from Portugal in 1497 (Kamen, 1988; Soyer, 2006). In 1570, a tribunal of the Inquisition was set up in Lima, which, like its counterpart in Spain, was established to ensure the fidelity of subjects to the Catholic Church through the punishment of religious dissention, particularly Judaism and Protestantism, but might also try those who were perceived as a political and economic threat (Cross, 1978; Kamen, 1997). The success of Peres's business attracted official attention and, as a Portuguese New Christian, his religious and political loyalty was questioned. In 1635, he was brought before the Inquisition in Lima on the charge of Judaizing, an allegation that he always denied, and in 1639 he was put to death. During the inquisitorial process his estate, including his papers and accounts, were confiscated and they are now housed in the Inquisición (Santo Oficio) section of the Archivo General de la Nación in Lima, Peru.

This article focuses on the accounts that Manoel Batista Peres kept during his two ventures to the African coast. These records contain lists of the commodities he imported from the Iberian Peninsula for sale in Upper Guinea and the accounts of goods he traded there, which included not only those he had imported, but also locally-produced products. The two account books, dedicated to the two separate ventures, total about 500 double pages together. Apart from a few single pages listing assets in slaves, wax and provisions, the accounts take the form of double entries and are referred to as "Livros de há e há de haver" (AGNL MBP), that is, of debit and credit. What makes the accounts particularly interesting is that they were compiled in the context of a barter economy and the items that were traded were valued in locally-produced cotton cloth (*panos*).

The aim of this study is to show how double-entry bookkeeping (DEB) could be employed in a non-monetised barter economy through the use of a unit of account. In order to understand why Peres kept his accounts in this form, the study begins by examining the general political and economic context in which he conducted his business, and the structure and nature of the slave trade. Subsequently, it describes his education, training and the systems of accounting in operation at the time, particularly those imposed by the state. The article then analyses the format of the accounts. Finally, it discusses the reasons why he kept his accounts in cloth money and what role this form of DEB might have played in the emergence of a capitalist economy. However, before proceeding it is necessary to outline the approach adopted in this paper and its contribution.

Contribution and approach

Due to the shortage of archival sources, studies of DEB in the early modern period have often relied on manuals used by accountants or employed theoretical arguments (Bryer, 1993; Hoskin and Macve, 1986; Littleton, 1933; Yamey, 1949, 1964). Accounts providing the level of detail contained in the sources discussed here, and the fact that they relate to a private trader rather than a slave-trading company, are quite exceptional for this period and place. In fact, with the exception of the accounts of his brother, João, and a business associate, Antônio Nunes da Costa, the author is not aware of the existence of any similar private accounts relating to slave trading in West Africa prior to 1630. The most comparable are those kept by Antônio Coelho Guerreiro in Angola between 1684 and 1692 (Mauro, 1963; Miller, 1984; Rau, 1956). Unlike the latter accounts, however, those discussed here are of added interest because they were kept in non-monetary units. These early archival sources thus offer a rare opportunity to explore how DEB was used and hence throw light on how and why it might have emerged and developed.

Recent reviews of accounting history research have concluded that studies by non-Anglo-Saxon scholars and of accounting in non-Anglo-Saxon settings are limited (Bisman, 2012; Carmona, 2004; Carnegie and Napier, 2002; Carnegie and Potter, 2000; Napier, 2006; Sy and Tinker, 2005;

Walker, 2008; Williams and Wines, 2006). This belies the fact that much research has been undertaken in Spain, Portugal and Italy. Scholars in Spain have had a long-standing interest in DEB's origins (Donoso Anes, 1994, 1996, 2002; Hernández-Esteve, 1981, 1985, 1995; Rubín Córdoba and Mallado Rodríguez, 2003), but only recently have they begun to employ theoretical insights in their analyses of primary sources, for example, of the accounting practices of organisations such Seville's Royal Tobacco Factory or religious brotherhoods (Álvarez-Dardet Espejo et al., 2006; Carmona et al., 1997; Gutiérrez and Romero, 2007). The reviews of the accounting literature referred to above have also observed that studies focusing on periods before the nineteenth century are limited. As such, by examining the accounting practices of a Portuguese trader in an under-researched geographical region and social context, and for a period for which few studies exist, this article contributes to redressing the current Anglo-Saxon and temporal bias in accounting history research.

The approach adopted here conforms to the view that differences in the approach of "traditional" and "new" accounting historians is one of degree rather than kind. Carnegie and Napier (1996: 8) have noted "the propensity of new historians to rely heavily on the archival discoveries of the traditionalists, who themselves find their work enriched by an awareness of the conceptual debates of the new historians". Furthermore, it has been increasingly recognised that the putative dichotomy between "traditional" and "new" accounting history fails to reflect the diversity of research in the field (Fleischman, 2004; Fleischman and Radcliffe, 2003; Fleischman et al., 1996; Funnell, 1996; Hoskin and Macve, 1986; Miller et al., 1991; Napier, 2006). The study here combines elements of both approaches. While it is based on archival sources, it follows the approach of new accounting historians who stress the need to analyse historical actors and events within their specific political, socio-economic and organisational contexts (Bryer, 1993; Carnegie, 2004; Carnegie and Napier, 1996, 2002; Gomes, 2008; Hopwood, 1983, 1987; Miller and Napier, 1993; Napier, 1989). This greater contextualisation extends to discussing how the particular findings can be linked to broader processes of social change and control (Bryer, 2000b; Carmona et al., 2004; Carnegie and Napier, 1996; Merino, 1998; Napier, 2006). Because of the particular period and context in which the accounts were compiled, especially pertinent to this study is the long-standing debate over the relationship between DEB and the rise of capitalism.

The Iberian political and economic context

Manoel Batista Peres conducted his slave-trading business at a time when the crowns of Spain and Portugal were united, a fact that was to have a powerful influence on his life and career. The union came about as a consequence of the succession struggle between Manoel I's three grandchildren – Don Antonio, the prior of Crato, the Duchess of Braganza, and Philip II of Spain – which was created by the premature death of the young king Sebastian of Portugal at the Battle of Alcázarquivir in 1578. Political intrigue culminated in the annexation of Portugal by Spain in 1580 and the two crowns remained united until the Portuguese revolt of 1640.

Despite Spain's attempts to impose its monopoly, prior to this time the Portuguese had played a significant role in Spanish overseas trade, particularly in the supply of African slaves to both Spain and the Americas. The union of the crowns of Spain and Portugal brought a reduction in customs barriers between the two nations and more liberal attitudes to Portuguese immigration. These opened up new trading opportunities to which Portuguese merchants were quick to respond (Pike, 1972: 174–175; Vila Vilar, 1973: 558). By the early seventeenth century, Seville was home to some 2000 Portuguese merchants, while many others made their way to the

Americas. Particularly prominent among them were New Christian converts from Judaisim, known as *conversos*, such as Peres (Cross, 1978; Israel, 1974; Studnicki-Gizbert, 2007; Vila Vilar, 1977a).

The Portuguese Atlantic slave trade

Portuguese merchants had imported slaves from North Africa from the thirteenth century, and from the late fifteenth century European overseas exploration created new opportunities to expand this trade. In Africa, it led to a change of focus from former routes across the Sahara towards the Atlantic. At the same time, the opening up of the Americas resulted in a dramatic decline in its native population and created a growing demand for African slaves. Having recognised Portuguese possession under the Treaty of Alcáçovas in 1479, Spain possessed no legal foothold on the African coast and was therefore forced to rely on foreign traders to supply her American colonies with slaves. The Portuguese were the first Europeans to become involved in the Atlantic slave trade (Green, 2012; Klein, 2010: 75–77; Thomas, 1997: 49–67). They dominated the trade in the fifteenth and sixteenth centuries and they held the *asiento* (monopoly contract) for the supply of slaves to Spanish America for the greater part of the period between 1580 and 1640 (Vila Vilar, 1977b). The Portuguese empire was not developed on the basis of centralised state control, but forged through the establishment of trading posts and by negotiation and compromise with local societies (Bethencourt and Curto, 2007). The Portuguese slave trade was, therefore, conducted by individual private traders, rather than by state-owned joint-stock companies.

Business ownership and finance

As a private trader, Manoel Batista Peres's first task was to secure the finance for his venture. For his first undertaking he acted as an agent for a number of small investors, but on the second he entered into partnership with his uncle, Diogo Rodrigues de Lisboa, with whom he signed a contract giving the latter two-thirds of the profits from the sale of slaves that were to be landed in Cartagena, in present-day Colombia (AGNL SO CO Ca 2 doc 8 Contract between Manoel Batista Peres and Diogo Rodrigues de Lisboa 25 Nov. 1616); he also traded small amounts of goods on behalf of a number of relatives, such as his maternal grandmother and aunt. Peres apparently sent his uncle accounts relating to his second venture, recording that it had netted a total of 67,000 pesos of which he was retaining 22,000 pesos (AGNL SO CO 18 doc 197 Borrador de carta de Manoel Batista Peres 27 Apr. 1620). Unfortunately these records have not been found. There is little evidence from Peres's accounts that he detailed the profit made on individual commodities or the cash entrusted to him by investors. Given that most of his investors were kin, there was probably no pressure on him to open up his accounts to a wider audience. Moreover, business confidence at this time depended on trust and reputation rather than the ability to scrutinise accounts (Carruthers and Espeland, 1991; Studnicki-Gizbert, 2007: 84–86). In these circumstances, DEB's value in being able to demonstrate to investors how their capital had been employed and the profits generated (Edwards et al., 2009: 552–553) was probably not an important factor in Peres's adoption of this form of bookkeeping.

Accounting within the structure of the Atlantic slave trade

A slave-trading venture was a complex undertaking. Finance, security and licences for the enterprise had to be obtained, and ships and cargoes assembled for the journey to Africa. Once the

commodities had been exchanged for slaves and wax in Africa, the latter would be transported across the Atlantic to Cartagena. At this stage, some slaves were sold and the profit remitted to Spain, while others were dispatched to Peru via the Panamanian isthmus and Pacific Coast. The whole journey might take two to three years (Newson and Minchin, 2007). During a journey, not only were slaves sold and purchased, but a whole range of people had to be paid for the goods and services they provided, including for the food, transport and medical treatment of the slaves. Arrival in Lima was not the end of the venture, for the long journey to Peru meant that slaves were expensive and were therefore normally sold on credit repayable over several years. Keeping account of thousands of transactions over a potential total of four to five years, especially when many of them were based on credit, was no easy task. Furthermore, the accounts were kept in three currencies. The outgoing cargoes, although they were assembled in Seville, were valued in Portuguese *réis*, but as discussed here, on the African coast accounts were kept in cotton cloth (*panos*). Finally, in the Americas, the slaves, wax and other items imported were valued in pesos and reals, while remittances to the Iberian Peninsula generally took the form of silver bars.

While each venture involved a complex set of exchanges, separate accounts covered distinct stages in the trade. These were: the acquisition of slaves in Africa; the assemblage and maintenance of a cargo of slaves in Cartagena and their subsequent transport to Peru; and the maintenance and sale of slaves in Lima. From the accounts that have been uncovered, it appears that Peres only used DEB in Africa and Lima, while transactions on the journey, which mainly took the form of expenditures, were recorded chronologically in a journal. The aim of traders in this mercantilist phase of the global economy was to purchase goods cheaply in one location and sell them dear at another. Any profit would only be realised when the commodities, in this case slaves and wax, were sold the other side of the Atlantic. As such, the accounts kept with clients on the Upper Guinea Coast were not employed to facilitate the calculation of profits. If this was not the aim, why did Peres adopt this form of bookkeeping? A partial answer to this question may lie in the nature of his education and training and the control exerted by the Spanish and Portuguese states over merchant account keeping.

Manoel Batista Peres: The initiation of a slave trader

How and where did Manoel Batista Peres acquire knowledge of the slave-trading business and accounting? Because Peres was brought before the Inquisition, some details of his early life and education are known. However, he did not comment on the form in which he kept accounts, which can only be inferred from the accounts themselves and from the context in which they were used. It is perhaps worth noting, however, that the absence of any comment itself could be interpreted to mean that DEB was not a novel practice but common to the extent that it did not require an explanation.

Education and training

Manoel Batista Peres was born into a New Christian family in Ançã in the Archbishopric of Coimbra in Portugal on 2 July 1589. His father, Francisco Pérez, was a Spanish trader who had been born in Granada or Priego, while his mother, Isabel Gomes, came from a Portuguese merchant family in Lisbon. When he was five years old he was sent to Lisbon to live with his maternal aunt, Branca Gomes, staying with her for six or eight years until they both left for Seville, where he resided for the next six years (AHNM Inquisición 1647 exp. 13 fol. 265 Examen de Manuel Bautista Pérez 22 Aug. 1635).

Peres testified that he had been taught to read and write in Lisbon in public classes led by various teachers, including one called el Manguillo and another Nicolás de Herrera, both of whom, despite the Spanish spelling of their names, were referred to as Portuguese. During this period, people often changed their names according to context and it might be hypothesised that since he was being tried by the Spanish Inquisition, the names of his two Portuguese teachers were Hispanicised. This account obviously referred to his early education in Lisbon, since in his teens he was living in Seville. These early years reflect the relatively free passage that existed between Spain and Portugal between 1580 and 1640.

How and where did Peres later acquire knowledge of accounting and DEB in particular? In discussing the origins of DEB, Hoskin and Macve (1986) suggest that it emerged with new forms of disciplinary control exercised in medieval universities over the transmission and presentation of knowledge, including numerical accounts. However, the method's subsequent diffusion was not dependent on a university education, for as Funnell and Robertson (2011) have shown for business accounting in sixteenth- and early seventeenth-century Netherlands, accounting practices could be disseminated through manuals, private study and merchant networks. Indeed, the spread of DEB was greatly facilitated by the introduction of the Gutenberg printing press (Carruthers and Espeland, 1991: 48–51; Mills, 1994; Yamey, 1956: 10).

When Peres sought to develop his career, he did not enter university. At that time, university education in Spain focused on theology, law and the arts, as preparation for a career in the church or professions (Kagan, 1974). Philip II tried unsuccessfully to promote the teaching of mathematics, but largely from the perspective of architecture, engineering and cosmography (Goodman, 1983). Commerce in Catholic Iberia was regarded as potentially harmful to the soul in terms of working against the collective and the achievement of higher political and religious goals (Studnicki-Gizbert, 2007: 30–34). As such, merchants had a marginal position within society. In fact many were Jews, New Christian converts from Judaism or Islam, or were foreigners. Even if opportunities had existed to pursue an education in commerce, following the expulsion of Jews and Muslims from Spain in 1492, entry to universities for *conversos* became more difficult (Poole, 1999). Born into a New Christian merchant family, therefore, university education was not the path chosen by Peres. In any case, it was not only New Christians, but the majority of aspirant merchants who learned their trade through on-the-job training, sometimes through apprenticeships, rather than through formal education (Bátiz-Lazo et al., 2009: 25; Rodrigues and Craig, 2004: 331).

In 1607 Peres returned to Lisbon where he was initiated into the African slave trade by his uncle and mentor, Portuguese-born Diogo Rodrigues de Lisboa. Rodrigues de Lisboa was a prominent figure in Portuguese overseas trade with Asia and was part-investor in his slave-trading ventures (Boyajian, 1993: 109, 200). In fact, his uncle continued to send him letters containing commercial advice even after he had embarked on his slave-trading career (AGNL SO CO Ca 2 doc 8 Diogo Rodrigues de Lisboa 22 Jan. 1618). His elder brother, João Batista Peres, also used a similar system of accounting and was probably inducted into the profession in the same way (AGNL MBP fols. 599–680v). Merchants generally resided in large multifamily households, so, apart from explicit training, Peres probably acquired business knowledge and experience from other relatives who lived there, as well as from traders in transit who were often accommodated in the household (Studnicki-Gizbert, 2007: 74–78). As part of an international trading system, he may have been persuaded to adopt a similar form of accounting to other merchants in the network (Carruthers and Espeland, 1991: 52). At present there is no evidence for the form this may have taken, but this would be worth investigation.

Peres's training is likely to have been aided by manuals on commerce and account keeping. When he was arrested by the Inquisition in 1635 his library of some 150 books contained three widely used texts on arithmetic and accounting (Guibovich Pérez, 1990). It is not clear when he acquired these books and their precise titles are not known. One referred to as "el dorado contador" was probably Miguel Jerónimo de Santa Cruz's, *Libro de aritmética especulativa y práctica intitulado El Dorado Contador* (Seville, 1603), while another listed as "reducción de cuentas" was possibly Diego Suárez's, *Cartilla y arte menor de contar* (Salamanca, 1619). Finally, a book on "arismética [sic]" was probably Juan Pérez de Moya's, *Aritmética práctica y especulativa* (edition unknown). His library also contained Juan de Hevia Bolaño's, *Laberinto de comercio terrestre y naval*, which was published in Lima in 1617 and was one of the earliest books published on commercial law. Its rigour and precision was widely respected and it was published in Spain two years later (Hernández-Esteve, 1981: 21–22). This manual includes several chapters of detailed guidance on drawing up accounts, referring to DEB in a manner that suggests it was common practice (Hevia Bolaño, 1617: 402). Indeed, the prominent Limeño banker, Juan de la Cueva, appears to have employed this form of bookkeeping (Suárez, 2001: 97).

While Peres probably acquired knowledge of accounting through training, private study, and from fellow merchants, his adoption of DEB went beyond his upbringing. Another potentially important influence was Spanish state legislation that specified how merchants should keep their accounts.

Spanish state controls on commerce and accounting

The spread of DEB to the Iberian Peninsula is obscure, but the first books on accounting appear to have been published there in the early sixteenth century (Brown, 1968: 131–133; Hernández-Esteve, 1981: 15, 17–21). By that time the double-entry method must have been commonly used, for in 1549 and 1552 Spanish laws required all banks, merchants and other businessmen, including foreigners conducting business in Spain, to use this system of accounting (*Novísima recopilación de las leyes de España* vol 4: 248); later in 1596 officials of the Royal Exchequer were also required to employ this method (Donoso Anes, 1996: 122–124; González-Ferrando, 1994; Hernández-Esteve, 1981: 20). Between 1580 and 1640, a Council of Portugal was established in Madrid to advise the king on Portuguese matters, but the internal administration, laws, currency and customs of Portugal remained (Elliott, 1963: 266–277, 341–348; Lynch, 1965: 304–310). There is a shortage of research on accounting history in Portugal (Faria, 2008), but at present there is no evidence that Spain exercised any clear influence on Portugal's financial organisation during this period; Portugal only adopted DEB in the public sphere in the eighteenth century (Gomes et al., 2008).

Strict control over overseas commerce was exercised by the *Casa de Contratación* (Board of Trade) in Seville, which was established in 1503. The *Casa* not only issued licences, but checked vessels for seaworthiness, inspected crews and outgoing cargoes, and ensured that ships had adequate provisions (Newson and Minchin, 2007: 21–25). It was from the *Casa* that Peres obtained official permission for his slave-trading ventures (AGI Contratación 2879 R6 Registro del … Nuestra Señora del Vencimiento 1617). This bureaucratic process necessitated detailed knowledge of and compliance with financial and legal regulations and procedures. Even though Spanish legislation and practice may have encouraged merchants to use DEB, the particular accounts analysed here were private papers intended for the eyes of the author alone, so there was no compulsion for Peres to compile these accounts in this format. Insight into why he adopted this method might be inferred from the accounts themselves.

The format of the accounts

The two accounting ledgers kept in Upper Guinea by Manoel Batista Peres were referred to by him as “Livros de há e há de haver”, that is, of debit and credit. According to De Roover (1937: 270–271), the essence of DEB is its duality. Each debit entry in a ledger has to have a corresponding credit. Both entries need to be recorded in the same currency (or medium of exchange) and the sums of debits and credits have to balance. However, definitions of DEB vary. For some accounting historians the duality expressed in this format is only part of a total system of accounting that requires the existence of a journal (*libro diario*), or day book, which can be linked to the ledger (*libro mayor*) (Hernández-Esteve, 2005; Littleton, 1933: 23–27; Winjum, 1971: 334–335). Others seeking to link the rise of DEB to capitalism focus on the extent to which profits and losses, as well as assets and liabilities, were calculated in order to inform future investment decisions (see Yamey (1964) and Miller and Napier (1993) for a discussion). For Littleton (1933: 27), an essential difference between DEB and earlier forms of accounting lay in the purposes for which such accounts were compiled.

Not all features of the ledgers examined here accord with the strictest definitions of DEB. It has already been noted that due to the structure of the slave-trading business, profits or losses would not have been calculated at the conclusion of trade in Africa, but only at the end of a venture lasting several years. Edwards (1989: 51) has argued that the earliest perceived benefits of DEB were its ability to bring order to complex sets of transactions and, through periodically balancing accounts, enable a check to be kept on records and fraud to be reduced. He further notes (1989: 54) that the real potential of DEB for producing final accounts and summarising the financial position of an enterprise was a later development. Others have also noted that in the early years of its implementation there was often a diversity of practice and that DEB was often not employed to the highest standard or used to its full potential (Carruthers and Espeland, 1991). While it is difficult to ascertain exactly what benefits Peres found in employing this system of accounting, some inferences may be made from the accounts themselves. What is clear is that his accounts were immaculately kept and his arithmetic accurate, such that missing elements probably do not represent poor bookkeeping, but rather conscious decisions on the value of making particular entries and calculations. Furthermore, despite the clarity and logic of Peres’s accounts they are not couched in the vocabulary of rationality. Rather, he appeals to God to safeguard his slave-trading ventures, while the words Jesus Maria were inscribed on the front cover of João Batista Peres’s ledger (AGNL MBP fols. 400, 599).

The accounting ledgers discussed here were probably neat copies compiled from accounts of day-to-day transactions recorded in a rough copy book or “libro borrador”. Rough copy books have not been found for Peres’s two African ventures. However, one does exist for the period from 1622 to 1627 when he was based in the Americas (AGNL SO CO Ca 18 doc 197 Libro borrador de cuentas 1618–1627). The physical character of this long narrow book suggests it was probably folded over in order to fit into a pocket. In this book, entries were organised chronologically rather than by client or by debit and credit. The identity and ethnic background of the clients is explored in another article (Newson, 2012a). The details were then transferred to a “livro de há e há de haver” and single pages compiled for sales of the most important assets, namely of slaves and wax. It is likely that a similar day book was kept on the African coast and was the basis on which the ledgers discussed here were compiled.

The Upper Guinea ledgers consist of two books, one for each venture, each with two adjacent pages for each client; where the lists of goods exchanged were long, they were continued on additional pages. The left-hand debit page was headed by the name of the client followed by a dated list

Table 1. Manoel Batista Peres's account with Diogo da Fonseca 1613.

Diogo da Fonseca		fol. 448v		fol. 449	
10 June [1613]	owes for one piece of *cotonia*,[1] 7 *panos*	7	23 February 1614	He has credit for 3 blacks valued at 380 *panos*	380
14 June	owes for 9 pieces of *cotonia*,[1] at 53 *panos*	53			
The same day	20 swords, at one *negro*, 120 *panos*	120			
The same day	5.25 pounds of amber at half a *negro*	60			
14 June	2.5 pounds of coral, at 5 arráteis[2] a *negro*, worth 54 *panos*	54			
The same day	A gross of buttons and one *pano* of silk thread, altogether 5 *panos*	5			
	14 knife-handles, 26 *panos*	26			
	15 pieces of lenço,[3] at 45 for a *negro*, worth 40 *panos*	40			
	4 *panos de Rei*,[4] at 15 *panos*	15			
		[380]			

Notes: [1] An Indian scarf or handkerchief of cotton, silk or linen; [2] an *arrátel* was a unit of about 400 grams; [3] a type of linen cloth; [4] ordinary cotton cloth whose price was regulated.
Source: AGNL MBP fols. 448v–449.

of the goods which he or she received from Peres, while the right-hand credit page listed the items that were returned by the clients. In the first set of accounts dated between 1613 and 1614, the values of all items in both debit and credit accounts were indicated on the right-hand side of each page in *panos* or pieces of cloth. An example of the format used in the first set of accounts is illustrated by the account that Peres had with Diogo da Fonseca (Table 1).

In the second set of accounts, where items were expensive, their value was indicated on *each* page on the left in *negros* and on the right in *panos*, as shown in Table 2. It needs to be stressed that the values entered into the accounts were cash equivalences and that transactions generally did not involve the physical transfer of cloth (*panos*) or slaves (*negros*) as mediums of exchange.

Manoel Batista Peres's accounts cannot be described as DEB in the sense that each *individual* debit had a corresponding *individual* credit entered on the same day. This is in part because a single transaction might be a bundle of goods and also because there was often a delay between debit receipts and credit payments. As such, the accounts could not have been used to calculate the profits on *individual* items, nor thereby be used to inform future investments. In terms of business planning in the Upper Guinea context, this was not necessarily a limitation, because markets were imperfect and unpredictable, with the value of items depending to a large degree on prestige, changing taste and the desire for variety (Newson and Minchin, 2007: 39–40; Thornton, 1998: 45). Nevertheless, like DEB, these accounts, even though they were using *panos* as a cash equivalent, were compiled to calculate the overall balance of debits and credits for individual clients and were the basis on which Peres drew up accounts of his assets and liabilities.

Peres's asset accounts took the form of slaves, wax or provisions to support the slaves, rather than "cash" (*panos*). Blocks of wax were sought after for candles and for use as ballast (Newson and Minchin, 2007: 49). Although Peres inventoried the cargoes he imported from the Iberian Peninsula by box or bundle (AGNL MBP fols. 543v–546, 549v–550, 591–592, 595–596v), he did

Table 2. Manoel Batista Peres's account with Antônio Vicente 1617.

Antônio Vicente		fol. 751v		fol. 752		
negros	1617		*panos*	1617		*panos*
		owes for one flask of wine, 6 *panos*	6	22 May	He has credit for 2 blacks that he sold me, one at 90 *panos* and the other at 80, 170 *panos*	170
		owes for one bottle of oil, 4 *panos*	4		He has credit which I forego for the reckoning of this account, 12 *panos*	12
	18 May	50 nails, 2 *panos*	2		which was made good by Henrique Vaz, 20 *panos*	20
1	20 May	28 flasks of wine, one *negro*		[Total]		202
1	The same day	28 iron bars, 1 *negro*				
1	The same day	3 *corjas*[1] of *lenço*,[2] 1 *negro*				
1	The same day	3 *corjas* of *fofolims*[3]				
½	21 May	50 tin basins, half a *negro*				
½	The above day	10 swords, half a *negro*				
½	22 May	52 mugs, half a *negro*				
		A dozen plates, 3 *panos*	3			
etc.		etc.	etc.			
7	[Total]		427			
		225 *panos*, which are 1.5 *negros* that remain after the 5.5 *negros* from the 7 *negros* that is written is taken for 13 pounds of *brandil*[4] and three thousand beads which he took on my account	225			
			202			

Notes: [1] A unit of 20; [2] a type of linen cloth; [3] low quality linen cloth from India; [4] semi-precious stone from India.
Source: AGNL MBP fols 751v–752.

Table 3. Extract from Manoel Batista Peres's slave asset account 1614

1614	fol. 486v	1614	fol. 487
The blacks that I have in the house, as appears on fol. 81, are 86	86	There is credit as appears on fol. 81 for 8 blacks which I lent to various people.	8
on 16th February Diogo da Fonseca sent me 2 blacks, on account of the three he owes me	2	on 1st February I sent a Bissao boy of 6 palms to Nicolao Ruiz to exchange	1
on the 21st of the said month Antônio Pacheco paid me 1 Jolofo boy who belongs to [the account of] Diogo Rodrigues [de Lisboa]	1	on 17th of the said month I paid a female slave to Domingos Antunes for the cloth he paid	1
the same day, João Batista paid me 9 slaves, namely 5 males and 4 females	9		
on 23rd February, Diogo da Fonseca paid me a remaining Banhu boy	1		
on 26th February Gabriel Vaz sent me from the Rio do Nuno with Lopo Vaz Pestana, a female black with a fallen chest [*peito caido*] and a youth of 6.5 palms	2		
Total for this folio	144		10
Total for the slave asset account	[227]		[11]

Source: AGNL MBP fols. 486v–487.

not keep accounts with running balances for individual commodities, such as cloth, beads, iron or wine that he exchanged. This was probably because there were several hundred types of goods and they were often of limited value; moreover, the aim was not to realise profits from their sale in Africa, but rather to use them to acquire slaves and wax. As such, apart from provisions for the slaves, the ledgers contain separate asset accounts for these two commodities only.

Peres's slave and wax asset accounts also take the form of double entries. The account for 1613–1614 records the acquisition of 227 slaves, entered as an input on the debit page, while the details of 11 of these who died or were resold before shipment to the Americas are recorded as negative assets on the credit page (AGNL MBP fols. 476v–477, 482v–483, 486v–487, 489v–490). The asset account is arranged chronologically with individual entries indicating the number of slaves acquired, how they were obtained, and from whom. Occasionally some comment is included on the ethnic background or physical character of the slaves. Occasionally the trader is not named but just referred as the "Mulatto" or the "Jew", but most of the entries can be linked back to the accounts held with individual clients. Hence, the three slaves acquired by Diogo da Fonseca indicated in Table 1 (fol. 449) are entered on the debit side of the asset account, shown in Table 3. Similarly, the other entries included in this extract can be linked to the client pages of Antônio Pacheco (fol. 469), João Batista (fol. 486), and Lopo Vaz Pestana (fol. 459). It is important to note that the assets are not recorded in *panos*, but in numbers of actual slaves.

Although Peres drew up lists of his assets, he did not attempt to calculate the profitability of his ventures. This does not mean that he was not interested in making profits. His letters frequently mention the income generated by the sale of slaves and also comment on disasters, such as the loss

of nearly 20 per cent of his slaves to smallpox and other diseases on the Middle Passage in 1618, which he described as a "punishment from God" (AGNL SO CO Ca 18 doc 197 Borrador de carta de Manuel Bautista Pérez a Manoel de Oliveira Serrão 30 Jul. 1618). Most likely the absence of profit or loss calculations in the African accounts was related to the structure of the business, where in common with European medieval businessmen (Lane, 1945), Peres drew up accounts only at the end of a venture (or *empleo*) that might last four or five years. However, his summaries, which only exist for later ventures, and not for the two discussed here, are descriptive accounts of expenditure and income under broad headings, such as the cost of slaves and expenses on different stretches of the journey (AGNL SO CO Ca 25 doc 251 and Ca 20 doc 201 1625–1631; Newson and Minchin, 2007: 233). Although it would have been possible for Peres to calculate profit and loss from his figures, he did not do so. Several scholars have suggested that in the early implementation of DEB the calculation of profits was incidental rather than central to the procedure (Hoskin and Macve, 1986: 124; Winjum, 1971: 349–350; Yamey, 1949: 110–111).

The benefit of DEB to Peres would appear to have been more in its ability to bring clarity and order to a complex set of transactions. This argument is particularly persuasive in relation to the African accounts for which there were no requirements to calculate profit or loss. In Upper Guinea, Peres traded with some 190 listed clients, including 10 women, most of whom he only became acquainted with personally during his brief visits to the coast. The range of commodities in which he traded was extensive, including textiles, clothing, precious and semi-precious stones, coral, spices, drugs, alcohol, iron, swords, and silverware, as well as general merchandise, such as furniture and accessories. Over 60 types of cloth alone were traded, excluding those of different colours and sizes. The types of commodities traded are the subject of a separate article (Newson, 2012b). DEB would have enabled Peres to keep systematic accounts of the wide range of commodities he traded and to check on what he was owed by a large number of essentially unfamiliar people. The accounts were being used as an aide memoir and system of internal control, for which DEB had advantages over single-entry methods of accounting (Edwards, 1989: 51). From this perspective, DEB may be seen to have facilitated the development of the slave trade (Fleischman, 2004; Fleischman et al., 2004).

It is worth noting some other features of the ledgers. Like the less extensive accounts of Antônio Coelho Guerreiro, a slave trader in Angola at the end of the seventeenth century (Mauro, 1963; Miller 1984; Rau, 1956), the language of Peres's accounts shows how they focused on the individuals with whom he had a commercial relationship. Hence, he uses terms such as "he owes", "I bought from him", or "he sold me". They also suggest that there was a fairly high degree of trust between traders and clients and that there was little defaulting. Clients might send their slaves or servants to acquire goods on their behalf and these would generally be issued on the presentation of just a small note or verbal message. So an entry might read, "dei a Francisco por seu escrito" ["I gave to Francisco on the basis of his note"] or "dei por seu mandado a Gaspar" ["I gave to Gaspar on his order"].

While there was a high degree of trust, in a few cases security was provided against future payment, normally in the form of the deposit of a slave. For example, Peres was given "a youth that he [Baltasar Leitão] left as a pawn at his cost and risk by name of Amadis" (AGNL MBP fol. 748v and also fols. 434 and 782v). Also, when his brother João Batista Peres died he had in his possession "a black, Diogo Gualdamas, pawned at 17 bars [of iron], which are 94 *panos*" (AGNL MBP fol. 576). In the end, if debts were unpaid a pawn might be sent to the Americas as part of a slave shipment (AGNL MBP fol. 873v). However, the use of pawns was rare, especially compared to other regions and later periods (Lovejoy and Richardson, 1999).

Where credit shortfalls did occur, accounts were often brought into balance through the payment of a small number of *panos*, which probably involved the physical transfer of cloth (see Table 2). Entries for the adjustment of an account (por ajustamento desta conta) were always of small value and sometimes paid by someone else other than the client. Occasionally, Peres finished an account with the word "findas" or closed, as did his brother João and his business associate, Antônio Nunes da Costa (AGNL MBP fols. 285–330v, 599–5742v, 917–971v). However, not all accounts were balanced and there is no evidence that Peres balanced accounts overall at the end of a year or drew up lists of "bad debts" or "lines of credit". The failure to balance accounts was quite common in Europe at the time (Carruthers and Espeland, 1991: 53–54). In the context of the slave trade, Miller (1984: 11–12) proposes some possible reasons. He suggests that unbalanced accounts might reflect the protracted period over which transactions occurred, sometimes months or years. Accounts might therefore be left open in anticipation that repayments might be made at some future date. He further suggests that open accounts might be used to develop or maintain relations of patronage-clientage that could be useful in future business ventures.

Accounting in cloth money

As illustrated above, most items in Peres's accounts were valued in cloth or *panos*. Cloth was woven on a narrow loom that produced strips of between 10 to 15 centimetres wide by about 16 metres long. The full length was then cut into six or eight strips that were then sewn together to form a *pano* one metre wide by about two metres long (Brooks, 2003: 62; Curtin, 1975: 214; Johnson, 1980: 195; Rodney, 1970: 181; Sundström, 1965: 151). Less commonly, where goods were expensive their value was indicated in *negros*. In 1613–1614 a *negro* was equivalent to 120 *panos*, and in 1617–1618 to 150 *panos*. Johnson (1976: 24) suggests that the value of a slave as a unit of account was generally fixed for a trading season at a particular port, which in this case would have been Cacheu in present-day Guinea-Bissau. However, Johnson provides no further details of the procedure by which the equivalences were set or when the practice might have started, and the documentary sources currently available throw no light on these questions. However, other sources indicate that other traders, albeit business associates of Peres, were employing the same exchange rate (AGNL MBP fols. 285–330v, 599–5742v, 917–971v). The increase in the exchange rate between the two ventures almost certainly reflected the growing demand and increased market prices for slaves (Newson and Minchin, 2007: 68–69).

It is important to note that *negros* were idealised values and units of account and not true prices or actual slaves. Often the accounts refer to *negros de pagamento*, which generally referred to the value of goods being returned rather than actual slaves. In fact, most repayments were in commodities other than slaves (see also Curtin, 1975: 238). Where actual slaves were delivered in repayment, they were normally identified by their characteristics, such as their age, sex, name or as a *negro em pé* (a black (African) on foot) and their actual value was given in *panos*. So, for example, in 1613 one client, Felipe Esteves, made a repayment of "a black girl [negrinha] of 5.5 palms [in height], worth 80 *panos*" (AGNL MBP fol. 428) and in 13 June 1617 Peres recorded that Álvaro Gonçalves Francês "gave me a youth, by name of Francisco, worth 240 *panos*" (AGNL MBP fol. 808). Where the value of an actual slave was equivalent to a *negro* as a unit of account, he or she would be referred to as "um negro de por si de pagamento [a slave in person as payment]" (AGNL MBP fol. 442v).

Why did Manoel Batista Peres draw up his accounts in cotton cloth or *panos*? The simple answer is that there was a shortage of European currency on the Upper Guinea Coast at this time and cotton cloth was widely used as a medium of exchange. Cloth money was used in many parts

of Africa in pre-colonial times, notably in eastern Africa, the Congo, and the savanna area south of the Sahara, but it was in Senegambia that it assumed its greatest importance (Curtin, 1975: 237; Douglas, 1958; Johnson, 1980). Here, the role that domestically produced cotton cloth played as a currency would later be assumed by European imports, such as iron bars, or cloth from India.

It is not clear when and why cloth emerged as a medium of exchange in Upper Guinea; in fact the antiquity of cotton production and weaving itself is debated. It is possible that cotton weaving was introduced from the east along trade routes across the Sahel as part of the Islamisation of West Africa from the ninth century, or even earlier (Carreira, 1983: 17–19; Johnson, 1977; Kriger, 2006: 73–80). From the eleventh century strips of cloth were being used as currency in the Upper Senegal River (Hopkins and Levtzion, 1981: 78; Kriger, 2006: 82–83). Only later did cotton production and weaving arrive on the Upper Guinea Coast, though it had become well established there by the mid-fifteenth century when the Portuguese navigator and explorer Alvise Cà da Mosto (Cadamosto) observed cotton being woven into narrow cloth strips (Crone, 1937: 31–32). At that time, however, it was not being used as a medium of exchange, for he wrote "They sold everything, item by item, by barter, and not for money, for they have none. They do not use money of any kind, but barter only, one thing for another, two for one, three for two" (Crone, 1937: 49). Similarly, at the beginning of the sixteenth century, Valentim Fernandes, a printer in Lisbon, received reports from visitors to the coast that "There is no money in this land nor in all Guiné, they only exchange one thing for another" (Fernandes, 1951: 42). Even though at this time *panos* were not being used as a medium of exchange, locally-produced cotton cloth and thread were important items of trade.

About a century later in 1615, the Jesuit Manuel Álvares suggested that cotton cloth was not only an important item of exchange (Álvares, 1990, Chap. 1: 13, Chap. 3: 1–2, Chap. 8: 1, Chap. 11: 1), but was also being used as a currency. He described bolls and strips of cotton, as "the currency of these people", noting that an *alqueire* [a dry measure] of *milho* [millet] was worth less "than one white cloth, the exchange-currency employed here [in Cacheu], which corresponds to a *tostão* in our money in the Indies" (Álvares, 1990, Chap. 5: 4 and Chap 13: 5). Similarly, in 1623 at Mangegar on the central Gambia River, the English explorer Richard Jobson recorded that "there is no use of coyne, or money, neither have they any, but every man to choppe [exchange] and barter one thing for another, and the onely [sic] nominated things is matts [sic], as in the asking price of this, or that I desire, the word is how many mats shall I give you?"(Gamble and Hair, 1999:162). Although the observation refers to "mats" rather than cotton cloth, this was merely a local variation of the system of exchange based on cotton cloth that generally prevailed in the Gambia (Curtin, 1975: 231; Gamble and Hair, 1999: 140).

The form of exchange described at the beginning of the sixteenth century may be described as "pure" or "direct" barter. This had the limitations that it required a coincidence of demand by two parties and immediate settlement. What emerged later is what has been called "indirect barter". This involved the use of a unit of account or medium of exchange, so that a concurrence of demand was unnecessary. A unit of account was a measurement of the market value of a good and, unlike a medium of exchange or commodity money, might not be physically transferred; indeed, like the English guinea or the Spanish *peso ensayado*, it might not physically exist (Johnson, 1980: 194). Where a commodity was used as a medium of exchange it existed in material form and could be stored for future use. Even though in theory it is useful to distinguish the role of units of account and commodity monies, a commodity might simultaneously perform both functions, as was the case on the Upper Guinea Coast. These different forms of exchange may be envisaged as falling

along a continuum in the transition to a cash economy (Bloom and Solotko, 2004: 95–96; Webb, 1982: 456–457).

In discussing the emergence of money, Brunner and Meltzer (1971) note that money has an advantage in that it minimises the need for households to expend time in acquiring information about the availability, quality and variety of goods. It also reduces the number of transactions required, facilitates credit, and enables delayed payments. As trade expands, new opportunities arise for middlemen and traders to exploit the incomplete or partial information available about market conditions. Once a medium of exchange is established, it becomes advantageous to individuals to keep part of their wealth as money in order to take advantage of trading opportunities as they arise. Since money can reduce the time expended in acquiring information about market conditions, Brunner and Meltzer argue that the demand for a medium of exchange is higher in times of rapid change.

These arguments would seem to be particularly applicable to trading on the African coast in the sixteenth century. This period saw the beginnings of the slave trade when there were significant uncertainties in the supply of both imported commodities and slaves (Elbl, 2004) which, among other things, encouraged the emergence of a system of credit and delayed payments, as reflected in Peres's ledgers. That such imperfect knowledge of demand and supply existed at this time, even within a short distance, is exemplified by the reception of a cargo of goods dispatched to the coast by Peres with his business partner Manoel de Oliveira in 1617. About half of the barter goods sent with Oliveira were beads, coral and precious stones, the rest consisted of cloth, clothing and some *aguardente* [alcoholic spirit] (AGNL MBP fols. 561–562). However, Oliveira was soon writing back to Peres in despair saying there was no demand for expensive items such as coral and amber and that he should send iron, wine, oil and *pano vermelho* [red cloth] (AGNL SO CO Ca 2 doc 8 Letter from Manoel de Oliveira, April 1618).

The expansion of trade on the Upper Guinea Coast coupled with the uncertainty of supply and demand would have encouraged the emergence of a medium of exchange. For a commodity to be adopted as a medium of exchange it has to be widely acceptable, portable and capable of subdivision so that relatively inexpensive items can be exchanged (Ames, 1955: 1021; Johnson, 1980: 193–195). Cloth conformed to these essential characteristics, being widely available and commonly traded, thus exemplifying the general observation that the goods that end up as currencies are generally those that are already exchanged on a repetitive basis (Baxter, 2004: 135; Webb, 1982: 456–457). Since cloth was widely available, it could function as a medium of exchange without being formally controlled by a community or state (Ames, 1955: 1016–1017; Johnson, 1977: 197; Martin, 1986: 4). As such, its use on the Upper Guinea Coast pre-dated its official recognition as a medium of exchange by the Portuguese authorities.

In 1613, the Governor of Cabo Verde, whose authority extended to the Upper Guinea Coast, reported that the *câmara* (town council) of Santiago had ordered that "panos da terra" (local cloth) should be used as a currency, because traders and others were having to sell their goods because of the lack of "dinheiro" (money) (Brásio, 1968: 507, Governor of Cabo Verde 25 Jul. 1613). However, Peres was drawing up his accounts in terms of *panos* before this date, so the decree probably confirmed what had already become common practice. At the same time, his brother João, like many other residents of Cacheu and the Upper Guinea region, was storing his wealth in the form of rolls of cloth comprised of 40 pieces. His warehouse effectively functioned as a form of bank, with pieces of cloth used for trading as the need arose (AGNL MBP fols. 641v–642; AGNL SO CO 33-349 1634 fols. 6, 7v, 9 Testament of João Batista Peres 12 Jan. 1617; Carreira, 1983: 108). Salaries, taxes and fines were later paid in the form of cotton cloth (Carreira, 1983: 30–31).

Panos were an appropriate medium of exchange at this time since they facilitated the acquisition of goods of low value, but their value from the perspective of European traders was sometimes too low. The lowest fraction used in these accounts was half a *pano*; more expensive items required a different unit of account. As noted above, more costly commodities were valued in *negros*, or occasionally in *barafulas*, a more expensive deeply-dyed blue cloth worth 5 *panos* a piece. On occasions they were valued in iron bars, which were also worth about 5 to 6 *panos* and which became important units of account in the northern part of the region in the late seventeenth century (Curtin, 1975: 240–247).

Like most forms of money, cloth also had essential non-monetary uses, in this case for clothing, bedding and bridewealth, among others (Ames, 1955: 1016–1019). Cloth was in particular demand for clothing by those of the Islamic faith. Johnson (1980: 194) has noted that one advantage of cloth money was that "it was possible to wear one's fortune and save it at the same time". This meant that cloth money was generally "consumed", that is, leaked into commodity use or deteriorated at a greater rate than other currencies, such as iron, gold, cowries or manilas (Webb, 1982: 460–461).

Webb (1982: 460–465) has argued that the history of money in Africa is characterised by a movement towards those currencies which are "consumed" more slowly and retain their monetary use for longer. This is because they afford greater opportunities for the control of the money supply and facilitate the growth of centralised political power, in many cases by a European state. According to Webb's reasoning, the adoption and persistence of a locally-produced cloth as a medium of exchange could be related to the lack of political control exercised by the Portuguese in the region at the time. However, it might also reflect the importance of textile production in the economy, which meant that "leakages" could be compensated for relatively easily. Further north, bordering on present-day Mauritania, where the climate was less favourable for the production of cotton, the supply of locally-produced cloth was less reliable. There, as production failed to meet demand, alternative units of account emerged, first iron bars and then, in the eighteenth century, a cloth known as the *pièce de Guinée* which was manufactured in the French colony at Pondicherry in India (Curtin, 1975: 237, 260–264; Hogendorn and Gemery, 1988: 131–132; Johnson, 1976: 20–21; 1980: 198–199).

Peres's accounts thus signal the emergence of a market economy on the Upper Guinea Coast, but one which was still based on indirect barter and only weakly integrated into the Atlantic economy. Forced to use the local medium of exchange, it made no sense for him to keep accounts in another currency, particularly since the aim was not to demonstrate profit when trade on the coast was concluded, but rather to balance debits and credits. Ultimately, profits depended more on market conditions at the point of sale in the Americas.

Double-entry bookkeeping and the rise of capitalism

Situated at the time the Atlantic economy was developing, what can this case study tell us about the relationship of DEB to the rise of capitalism? Some argue that DEB was a pragmatic response to the expanding volume and complexity of trade (Braudel, 1979: 572–581; Yamey, 1949, 1964) and was not a prerequisite for the emergence of joint-stock companies or modern capitalism (Funnell and Robertson, 2011). On the other hand, according to Sombart and Weber, the development of DEB was driven by a new rationalist or capitalist mentality (Bryer, 2000a; Chiapello, 2007; Gleeson-White, 2011: 161–171; Sombart, 1953; Weber, 1978; Winjum, 1971). Here, DEB is seen to have facilitated the differentiation of family and business interests and aided the emergence of autonomous enterprises, such as joint stock companies, where ownership and management were

separated. In such circumstances, it is argued, an advantage of DEB was its ability to demonstrate more clearly to investors how profits from a venture were generated and subsequently shared. Furthermore, the employment of what was perceived to be a more objective or "modern" form of accounting might be used to enhance business confidence, and thereby legitimise capitalistic social relations (Bryer, 1993, 2000a, 2000b; Carruthers and Espeland, 1991; De Roover, 1955; Edwards et al., 2009). As Yamey (1956: 8–9) has noted, differences between these two basic explanations have been overdrawn and are rather differences of emphasis and interpretation. Much of the debate has been conducted at a theoretical level or from a review of the literature, rather than in the context of particular accounts (for example, Chiapello, 2007; Miller and Napier, 1993; Toms, 2010). While the debate over the origins of DEB may have subsided, the ways in which it functioned and why it was used remain of interest, especially for this crucial period in the history of accounting between the beginnings of DEB and the emergence of joint-stock companies.

This case study generally supports the argument that at this time DEB was employed to bring order and clarity to complex sets of transactions (see also Winjum, 1971: 350). It demonstrates that Peres was not using this form of accounting to calculate profit and loss, to inform investment decisions, or to demonstrate to investors how their capital had been employed and profits generated. Although state legislation and his education and training may have encouraged him to adopt DEB, there was no compulsion for him to keep his private papers in this format. DEB clearly conferred some practical advantages to him over single-entry methods, that is, its ability to function as an aide-memoir and system of internal control.

Conclusion

Sources of the kind and quality analysed in this study are extremely rare, especially for this crucial period in the history of accounting between the beginnings of DEB and the emergence of joint-stock companies. Nevertheless, one must be cautious about generalising on the basis of findings derived from the accounts of a single trader for a limited time period. Even if is not possible to come to firm conclusions, this study has revealed in detail the processes by which DEB might have diffused and been employed, and also shown how it could be applied in a non-monetised barter economy.

Research on the spread and employment of DEB in the early modern period has generally relied on evidence from official records kept by public bodies or on the publication of accounting manuals. Being based on the accounts of a private individual, this case study has offered a different perspective. However, it is clear that Manoel Batista Peres was an exceptional businessman, which raises the question of how typical he was of merchants at the time. This is difficult to answer in the absence of comparable accounts drawn up by other traders for whom biographical details are also available. However, by placing Peres's activities within a broader political and economic context, the study has shown how knowledge of accounting practices could be diffused through private study, but more importantly through kin or business partners. In so doing, it suggests that DEB may have been more widespread among private traders, at least in Spain and Portugal, in the sixteenth and early seventeenth centuries than is often supposed. As such, even though documentary evidence of accounts kept in the double-entry format might be lacking, archival research focused on the functioning of merchant communities, especially those involved in international networks, might throw further light on how knowledge of DEB spread and how it was employed.

The analysis of Maneol Batista Peres's accounts reveals in detail how through the employment of a unit of account, in this case cotton cloth, DEB might be adapted to a non-monetised barter economy. Since cotton cloth was already widely employed in Senegambia as a medium of

exchange, it made sense for Peres to adopt it as the basic unit of account in his bookkeeping, particularly since the aim on the Upper Guinea Coast was not to generate profits from this stage of the trade, but rather acquire slaves that could be sold for profit in the Americas. Although Peres did not employ DEB to calculate profits and there was no need for him to open up his accounts to investors, it brought other advantages. The main value to him appears to have been its ability to bring order to complex sets of transactions, involving a large number of clients and commodities, and thereby function as an aide-memoir and system of internal control. It therefore enabled him to conduct his slave-trading activities efficiently, expand his network of clients, and build a profitable business. The study illustrates how in the process, aided by the adoption of a unit of account, DEB might facilitate the expansion of trade and the integration of a non-monetised society into a market economy, and in the absence of joint-stock companies, be complicit in the development of capitalism.

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